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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/740,738	12/18/2000	William C. Torch	258/171	4190

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EXAMINER

TONG, NINA C

ART UNIT	PAPER NUMBER
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2632

DATE MAILED: 03/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/740,738

Applicant(s)

TORCH, WILLIAM C.

Examiner

Nina Tong

Art Unit

2632

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e)(to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Specification***

1. The disclosure is objected to because of the following informalities: in the specification page 1 line 2, change "00/104,258" to -09/104,258--; line 4, please insert the blank with - 08/978,100--; line 5 insert -now U.S. Patent No. 6,246,344 issued June 12, 2001,-- after "1997,". Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

2. Claims 1-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1,21,24, the preamble is unclear as to what is the purpose of monitoring the movement of a person's eye. This is because it could also related to the eye operation besides monitoring the drowsiness. Please insert -for determining the alertness/drowsiness of a driver--.

Regarding claim 2, should the sensor is used for detecting the emitted light of the array of emitters from the eye. The phrase "for detecting light from the array of emitters" is incorrect because it is referring to the sensor is sensing the light directly from the emitter but not the light reflected from the eyes.

Regarding claim 29, please change “24” to -26—due to lack of antecedent basis for “the output signal from the one or more sensors”.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1,8-10,12-20,24,27, are rejected under 35 U.S.C. 103(a) as being unpatentable over Griesinger et al. (6,097,295).

Regarding claims 1,8,9,10,12-16,20,24,27, Griesinger et al. discloses an apparatus for determining the alertness of a driver, which comprises an infrared source (2) and a camera for detecting the eye movement for determining the alertness state of the driver.

Griesinger et al. Fails to specify the claimed device worn on a person's head.

However, it is well-known in the art of providing the IR source or camera on the eyeglass frame or any head mounted device form for providing a more accurate sensing device and for saving space. It would have been obvious to one of ordinary skill in the art at the time the invention was made to mount the IR source and the camera on the eyeglass in Griesinger et al. for improving the system and saving space. Also, as long as the emitters are provided to provide

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the reference frame, having the emitters disposed in a substantially vertical or horizontal arrangement would not constitute an inventive step but an obvious design choice. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the emitters disposed in a substantially vertical or horizontal arrangement in the above combination for performing the same function as desired. In addition, as long as the camera is provided, employing any well-known camera would not constitute an inventive step but an obvious design choice. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the well-known camera, such as the fiberoptic assembly, or the CCD and CMOS detector, in the above combination for performing the same function and for providing a more accurate system.

Regarding claims 17,18,19, it is well-known in the art of providing additional sensors to sense the condition of the driver or the orientation sensor and an actigraphic sensor for increasing safety. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ any well-known human physiological sensor and orientation/actigraphic sensor as claimed in the above combination for increasing safety.

5. Claims 11,28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Griesinger et al. (6,097,295) in view of Liang et al. (5,570,698).

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Regarding claims 11,28, Griesinger shows a transmitter 22 for transmitting the monitored signal to a remote location. Liang et al. teaches the concept of employing the camera to monitoring the eye's movement with the display 16. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide a display for displaying the movement of the eye's pupil either to the driver or the remote location in Griesinger et al. as taught by Liang et al. for providing a more accurate system.

### ***Allowable Subject Matter***

6. Claim 21 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

7. Claim 2-7,22,23,25,26,29,30 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Aboutalib et al. Disclosed the system with infrared source and camera.

Yamamoto et al. Disclosed the doze detector with IR emitters and sensors.

Clarke, Sr. et al. Disclosed the sleep detection with IR emitter and IR camera.

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Skolnick et al. Disclosed the sleep inhibiting alarm to detect the eyelid with IR emitter and sensor.

Ferraz disclosed the device to monitor the eye movement with special contact lens and sensor.

Apple et al. Disclosed an eye illumination system and method.

Mannik disclosed an eye actuated sleep prevention devices and other eye controlled devices.

Moannik disclosed sleep prevention device for automobile drivers.

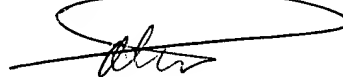
Torch (5,748,113, 6,246,344 B1, 6,163,281) disclosed the system for monitoring the eye movement.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nina Tong whose telephone number is 703-305-4831. The examiner can normally be reached on Mon-Fri. (9:30 -7:00), alternate Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Hofsass can be reached on 703-305-4717. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

Nina Tong  
Primary Examiner  
Art Unit 2632



Nina Tong  
March 24, 2002